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26. (Amended) A method, comprising:

mixing a vegetative cell into a sol;

mixing a sufficient amount of a dispersant into said sol to cause macropores in a gel formed by said sol; and

gelling said sol to form said gel.

28. (Amended) A gel, comprising:

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a macroporous solid network formed by the condensation of hydroxy metallates from a sol solution; and

a bacterial cell added to the sol solution and thereby immobilized within said solid network,

wherein said sol solution is compatible with said bacterial cell.

29. (Amended) A gel, comprising:

a solid network formed by the condensation of hydroxy metallates from a sol solution, the solid network defining macropores; and

a vegetative cell added to the sol solution and thereby immobilized within said solid network.

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31. (Amended) The gel of claim 30, wherein said solid network transmits less than about 35% of a 700 nm light beam over a pathlength of about 0.9 cm when said macropores are filled with air.

32. (Amended) The gel of claim 31, wherein said solid network transmits less than about 30% of said light beam when said macropores are filled with air.

33. (Amended) The gel of claim 32, wherein said solid network transmits less than about 18% of said light beam when said macropores are filled with air.

34. (Amended) The gel of claim 33, wherein said solid network transmits less than about 9% of said light beam when said macropores are filled with air.

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35. (Amended) The gel of claim 33, wherein said solid network is opaque to said light beam when said macropores are filled with air.

36. (Amended) The gel of claim 29, wherein said vegetative cell is entrapped within said solid network.